ACT/047/002
Bond 3

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

October 30, 1986

Mr. Mike Lekas, President
Geokinetics, Inc.
391 Chipeta Way
Salt Lake City, Utah 84108

Dear Mr. Lekas:

Re: Reclamation and Revised Bonding, Geokinetics, Inc., Seep Ridge Project, ACT/047/002, Uintah County, Utah

Attached please find a bond estimate compiled by Pam Grubaugh-Littig and a recommended seed mix with attendant details for revegetation compiled by Kathy Mutz for the Seep Ridge Project . This is the information you requested in our meeting on August 26, 1986.

Thank you for your cooperation and conscientious effort on this project.

Sincerely,

John J. Whitehead
Permit Supervisor/
Reclamation Hydrologist

Attachment
djh
cc: P. Grubaugh-Littig
K. Mutz
0800R/56

October 27, 1986

TO: Files

FROM: Kathryn M. Mutz, Reclamation Biologist

RE: Geokinetics Seep Ridge Project Field Visit, ACT/047/002

On Wednesday, September 17, 1986, Pam Grubaugh-Littig and Kathy Mutz met Mike Lekas at Kamp Kerogen to tour the area and discuss plans for reclaiming the site until it is reactivated sometime in the future. The entire site wll be reclaimed except for the structures and areas described in the attached bond estimate. Plans for revegetation work are also outlined in the attachment. All work should be completed during the fall of 1986.

Attachment
0528R-84
cc: P. Grubaugh-Littig
J. Whitehead

GEOKINETICS
BOND ESTIMATE

September 26, 1986

The improvements at the Geokinetics Seep Ridge site that will be retained during the indefinite suspension of operations are:

1. Shop building and shop area,
2. Mobile home park (without the mobile homes),
3. Two water wells - would be transferred to State Lands,
4. 20,000 bbl tank battery,
5. Evaporation ponds #2 and #3,
6. Power lines, power house, and power house yard,
7. Road.

(It is assumed that previously reclaimed areas will be disked and seeded during the fall of 1986.)

Dismantling and Removal:

Shop Building -

120' x 150' x 18' = 108,000 cf @ $.17/cf = $ 18,360

Power House -

30' x 40' x 20' = 24,000 cf @ $.17/cf = $ 4,080

Tank -

20,000 bbl tank battery 112,300 cf
5 days dismantling

truck & trailer & driver =	$537/day
sheet metal worker =	$265.20/day
laborers =	$184.40/day (1)
crane =	$988/day

$1,974.60/day x 5 days = $ 9,873

Power Line - (approximately 3,000 feet)

Remove @ $.80/ft. $ 2,400

Sub Total $ 34,713

Areas to be Regraded, Recontoured and Ripped:

Mobile Home Park	1.72 ac.
Power House Yard	5.50 ac.
Tank Battery Area	2.00 ac.
Shop Area	2.50 ac.
Roads	1.84 ac.
	13.56 ac.

13.56 ac. = 590,674 sf (@ 6") 295,337 cf
or 10,938 cy
@ $.84/cy for 10,938 cy Sub Total $ 9,188

Backfilling Evaporation Ponds:

Ponds #2 and #3 -

150' haul common earth, 200 H.P. dozer
@ $94/cy:

#2 = 400 x 400 x 3'	17,778 cy @ .94/cy	$ 16,711
#3 = 300 x 300 x 3'	10,000 cy @ .94/cy	$ 9,400
	Sub Total	$26,111

Revegetation of 19.29 ac: -

Harrowed, Fertilized, Drill Seeded:

Harrowed @ $200/day (including tractor & driver)
Fertilizer (applied) - $45/ac.
Drill Seeder @ $200/day (including tractor & driver)
Seed @ $150/ac.
At the rate of 10 ac/day

Harrowed in 2 days @ $200/day =	$ 400
Fertilizer = $45/ac. x 20 ac. =	900
Drill Seeder for 2 days @ $200/day =	400
Seed = $150/ac. x 20 ac. =	3,000
	$ 4,700

20% rate for revegetation
$4,700 x 1.2 = $5,880

Dismantling and Building Removal	$ 34,713
Backfilling Evaporation Ponds	$ 26,111
Regraded & Recontoured	9,188
Revegetation	5,880
Monitoring @ $500/year	$ 1,500
	$ 77,392
	(1986 dollars)

1987 $ 78,646
1988 $ 79,920
1989 $ 81,215
(Escalated @ 1.62%) from the Means Historical Cost Index)

PGL/djh
8808R/23

GEOKINETICS

RECOMMENDED SEED MIX FOR GEOKINETICS:

	#s PLS/acre
Bouteloua gracilis - Blue grama	1
Sporobolus airoides - Alkali sacaton	.5
Oryzopsis hymenoides - Indian ricegrass	2
Agropyron elongatum - Tall wheatgrass	3
Agropyron inerme - Beardless wheatgrass	3
Agropyron smithii - Western wheatgrass	3
Elymus junceus - Russian wildrye	2
Melilotus officinalis - Yellow sweetclover	2
Penstemon palmeri - Palmer penstemon	.5
Atriplex canescens - Fourwing saltbush	3
Atriplex confertifolia - Shadscale	2
Ceratoides lanata - Winterfat	2
Artemisia frigida - Fringed sage	.25

Recommended Procedure for New Revegetation:

1. Grade to round the slopes enough to permit drilling slopes; leaving top relatively flat is fine; okay to leave a berm on top near edge to prevent runoff.
2. Rip shale to loosen.
3. Spread topsoil (see comments below).
4. Fertilize; 60 lb/ac nitrogen and 50 lb/ac phosphorous
5. Disc or use a strong harrow to smooth and incorporate fertilizer.
6. Drill seed with Brillion seeder, if possible. A range drill would be next best.
7. If shrub seeds foul the drill, broadcast them before drilling.

Potential Sources for Brillion:

Vaughn Smith Construction in Soda Springs, Idaho.
Tim Ford - Wildland Seed Company, Logan, Utah.

Areas with Lots of Weeds: (which is mostly Kochia or Summer cypress)

1. If basically no "good" plants underneath:

   Technique:

   a. Disc and drill the same as new areas - the weeds come in as invaders. If good plants get a good start, they will out-compete them.

   Location:

   b. Mostly areas that haven't been seeded, e.g., trailer court, road(s), in junk yard, building pads and portions of old retort area.

2. If there are "good" plants underneath:

   Technique:

   a. Drill seed over sites without discing first. This will disturb some of the good vegetation but should provide enough new seed to out-compete the weeds.

   Location:

   b. These areas are portions of retort #25 and #26, portions of old retort area, and maybe some areas of trailer court or miscellaneous roads.

Topsoil Distribution on Area Not Blasted:

Since there is not much available topsoil, it may be worthwhile to selectively spread it. When ripping this area, note the regions that are solid shale outcrop as opposed to deteriorated shale subsoil. If topsoil is not spread on these rock areas, the Division would not expect vegetation to grow. Topsoil spread deeper over a smaller area should give revegetation a better chance.

KMM/djh
0873R/34